

WHAT IS CLAIMED IS:

1. A display control device comprising:

a display control section adapted to display a plurality of button groups each having at least one button in a monitor connected thereto and to display any of the buttons displayed in the monitor in focused state; and

a button change section including an in-group button changing operation unit adapted to change the button to be focused from one button to another within the button group, and an inter-group button changing operation unit adapted to change the button to be focused from a button of one button group to a button of another button group,

wherein, when the button to be focused is changed by the inter-group button changing operation unit from the button of one button group to the button of another button group, the display control section displays a specific button of the button group changed in focused state.

2. The display control device as claimed in claim 1,

wherein the display control section displays such a base ring in the monitor as is formed in an information display portion for displaying various information, and displays the buttons arranged around the base ring by dividing the buttons into the button groups.

3. The display control device as claimed in claim 1,

wherein the display control section comprises a processing unit adapted to execute software application programs, and

wherein the display control section displays and divides the

button groups for the functions of the software application programs to be executed by the processing unit, and applies the specific button to a button for executing a frequently used function in the button groups.

5 4. The display control device as claimed in claim 1,

wherein the display control section comprises a processing unit adapted to execute software application programs, and

wherein the display control section displays and divides the button groups for the functions of the software application programs  
10 to be executed by the processing unit, and applies the specific button to a button for executing a main function in the button groups.

5. The display control device as claimed in claim 1,

wherein the display control section comprises a button memory unit adapted to memorize a button that was focused immediately before  
15 the button to be focused is changed by the inter-group button changing operation unit from a button of one button group to a button of another button group, and

wherein when the button to be focused is changed by the inter-group button changing operation unit from a button of the another  
20 button group to a button of the one button group, the display control section displays the button memorized in the button memory unit in focused state.

6. The display control device as claimed in claim 1,

wherein the display control section displays ten keys as one  
25 of the button groups, and

wherein when the button to be focused is changed by the inter-group button changing operation unit from a button of one button group to a button of the ten keys, the display control section displays the specific button in the ten keys in focused state.

5 7. The display control device as claimed in claim 6,

wherein the display control section applies the specific button to a button indicating "0" in the ten keys.

8. The display control device as claimed in claim 6,

wherein the display control section comprises a button memory  
10 unit adapted to memorize a button that was focused immediately before the button to be focused is changed by the inter-group button changing operation unit from a button of the ten keys to a button of another button group, and

wherein when the button to be focused is changed by the  
15 inter-group button changing operation unit from a button of the another button group to a button of the ten keys, the display control section displays the button memorized in the button memory unit in focused state.

9. The display control device as claimed in claim 6,

20 wherein the button change section further comprises a button determining unit adapted to determine the focused button,

wherein the display control section comprises: a processing unit adapted to execute a software application program for realizing a telephone communication; a ten key memory unit adapted to memorize  
25 a button of the ten keys, which was focused immediately before the

button to be focused is changed by the inter-group button changing operation unit from the button in the ten keys to the button of the another button group; and a telephone number memory unit adapted to memorize a number of the button of the ten keys determined by the button  
5 determining unit, as a telephone number,

wherein the display control section displays a communication button as any of the buttons; the communication button for starting the transmission of the telephone number to be memorized in the telephone number memory unit and for erasing the telephone number  
10 memorized in the telephone number memory unit,

wherein when the button to be focused is changed by the inter-group button changing operation unit from the button of the another button group to the button in the ten keys and when the telephone number is memorized in the telephone number memory unit, the display  
15 control section displays the button of the ten keys memorized in the ten key memory unit in focused state, and

wherein when the button to be focused is changed by the inter-group button changing operation unit from the button of the another button group to the button in the ten keys and when no telephone  
20 number is memorized in the telephone number memory unit, the display control section displays the button of the ten keys indicating "0" in focused state.

10. The display control device as claimed in claim 6,

wherein the button change section further comprises a button  
25 determining unit adapted to determine the focused button,

wherein the display control section comprises: a processing unit adapted to execute a software application program for realizing a telephone communication; a determined key memory unit adapted to memorize the button of the ten keys, which was determined by the button determining unit immediately before the button to be focused is changed  
5 by the inter-group button changing operation unit from the button in the ten keys to the button of the another button group; and a telephone number memory unit adapted to memorize a number of the button of the ten keys determined by the button determining unit, as a telephone  
10 number,

wherein the display control section displays a communication button as any of the buttons; the communication button for starting the transmission of the telephone number to be memorized in the telephone number memory unit and for erasing the telephone number  
15 memorized in the telephone number memory unit;

wherein when the button to be focused is changed by the inter-group button changing operation unit from the button of the another button group to the button in the ten keys and when the telephone number is memorized in the telephone number memory unit, the display  
20 control section displays the button of the ten keys memorized in the ten key memory unit in focused state, and

wherein when the button to be focused is changed by the inter-group button changing operation unit from the button of the another button group to the button in the ten keys and when no telephone  
25 number is memorized in the telephone number memory unit, the display

control section displays the button of the ten keys indicating "0" in focused state.

11. The display control device as claimed in claim 1,  
wherein the in-group button changing operation unit is operated  
15 in an array direction of the buttons in the button groups so that the button displayed in focused state is to be moved from one button to another button displayed in the array direction within an identical button group by the display control section.

12. The display control device as claimed in claim 1,  
20 wherein the inter-group button changing operation unit is operated in an array direction of the button groups so that the button displayed in focused state is to be moved from one button in one button group to a button of another button group displayed in the array  
25 direction by the display control section.

13. The display control device as claimed in claim 1, further comprising a remote controller separated from the display control  
30 section,

wherein the button change section is disposed in the remote  
35 controller.

14. The display control device as claimed in claim 1,  
wherein the display control section displays the button selected  
40 by the button change section in focused state by displaying highlighted.

15. The display control device as claimed in claim 1,  
45 wherein the display control section displays the button selected

by the button change section in focused state by displaying enlarged.

16. The display control device as claimed in claim 1,

wherein the display control section displays the button selected by the button change section in focused state by changing the display  
5 color of the focused button.

17. A display control device comprising:

a display control section adapted to display in a monitor connected thereto ten keys composed of a plurality of buttons for inputting a telephone number and a communication button for starting  
10 a telephone communication, and to display any of the ten keys and the communication button displayed in the monitor in focused state; and

a button change section adapted to change the button to be focused from one button to another,

wherein the display control section displays a specific button  
15 of the ten keys in focused state when the ten keys previously not displayed are displayed in the monitor.

18. The display control device as claimed in claim 17,

wherein the display control section comprising a button memory unit adapted to memorize the button which was displayed in focused  
20 state immediately before the ten keys are erased from the monitor, and

wherein the display control section displays the button memorized in the button memory unit in focused state as the specific button.

25 19. The display control device as claimed in claim 17, further

comprising a button determining section adapted to determine the button displayed in focused state,

wherein the display control section comprising: a processing unit adapted to execute software application programs for realizing  
5 a telephone communication; a telephone number memory unit adapted to memorize the number of the button of the ten keys determined by the button determining section, as the telephone number and to erase the memorized telephone number when the communication button is determined by the button determining unit; and a button memory unit adapted to  
10 memorize the button focused immediately before the ten keys are erased from the monitor,

wherein when the telephone number is not memorized in the telephone number memory unit and when the ten keys not displayed are displayed in the monitor by the display control unit, the display  
15 control section displays the button indicating "0" of the ten keys in focused state, and

wherein when the telephone number is memorized in the telephone number memory unit and when the ten keys not displayed are displayed in the monitor by the display control section, the display control  
20 section displays the button memorized in the button memory unit in focused state.

20. The display control device as claimed in claim 17, further comprising a button determining section for determining the button displayed in focused state,

25 wherein the display control section comprises: a processing unit



adapted to execute software application programs for realizing a telephone communication; a telephone number memory unit adapted to memorize the number of the button of the ten keys determined by the button determining unit, as the telephone number and to erase the memorized telephone number when the communication button is determined by the button determining section; and a determined button memory unit adapted to memorize the button of the ten keys determined by the button determining section immediately before the ten keys are erased from the monitor,

10        wherein when the telephone number is not memorized in the telephone number memory unit and when the ten keys not displayed are displayed in the monitor by the display control section, the display control section displays the button indicating "0" of the ten keys in focused state, and

15        wherein when the telephone number is memorized in the telephone number memory unit and when the ten keys not displayed are displayed in the monitor by the display control section, the display control section displays the button memorized in the determined button memory unit in focused state.

20    21.    The display control device as claimed in claim 17,

         wherein the display control section applies a button indicating "0" of the ten keys to the specific button.

22.    The display control device as claimed in claim 17,

         wherein the display control section applies a button of the ten  
25    keys indicating the numeral of the telephone number to be normally

dialed firstly.

23. The display control device as claimed in claim 17,

wherein the display control section displays the button selected by the button change section in focused state by displaying highlighted.

24. The display control device as claimed in claim 17,

wherein the display control section displays the button selected by the button change section in focused state by displaying enlarged.

25. The display control device as claimed in claim 17,

wherein the display control section displays the button selected by the button change section in focused state by changing the display color of the focused button.

26. A display control device comprising:

a display control section adapted to display in a monitor connected thereto a plurality of buttons for inputting a telephone number and a communication button for starting a communication, and to display any of the ten keys and the communication button displayed in the monitor in focused state; and

a button change section adapted to change the button to be displayed in focused state from one button to another,

wherein when the communication button is displayed in focused state and when the button to be displayed in focused state is changed by the button change section from the communication button to the button of the ten keys, the display control section displays a specific button of the ten keys in focused state.

27. The display control device as claimed in claim 26,

wherein the display control section comprises a ten key memory unit adapted to store the button of the ten keys displayed in focused state immediately before the button displayed in focused state is changed by the button change section from the button of the ten keys to the communication button, and

wherein the display control section displays the button stored in the ten key memory unit in focused state as the specific button.

28. The display control device as claimed in claim 26, further comprising a button determining section adapted to determine the button displayed in focused state,

wherein the display control section comprises: a processing unit adapted to execute software application programs for realizing a telephone communication; a telephone number memory unit adapted to memorize the number of the button of the ten keys determined by the button determining section, as the telephone number and to erase the memorized telephone number when the communication button is determined by the button determining section; and a ten key memory unit adapted to store the button of the ten keys displayed in focused state immediately before the button displayed in focused state is changed by the button change section from the button of the ten keys to the communication button,

wherein when the telephone number is not memorized in the telephone number memory unit and when the button displayed in focused state is changed by the display control section from the communication

button to the button of the ten keys, the display control section displays the button indicating "0" of the ten keys in focused state and

wherein when the telephone number is not memorized in the telephone number memory unit and when the button displayed in focused state is changed by the display control section from the communication button to the button of the ten keys, the display control section displays the button memorized in the button memory unit in focused state.

29. The display control device as claimed in claim 26, further comprising: a button determining section adapted to determine the button displayed in focused state,

wherein the display control section comprises: a processing unit adapted to execute software application programs for realizing a telephone communication; a telephone number memory unit adapted to memorize the number of the button of the ten keys determined by the button determining section, as the telephone number and to erase the memorized telephone number when the communication button is determined by the button determining section; and a determined button memory unit adapted to store the button of the ten keys determined by the button determining section immediately before the button displayed in focused state is changed by the button change section from the button of the ten keys to the communication button,

wherein when the telephone number is not memorized in the telephone number memory unit and when the button displayed in focused

state is changed by the display control section from the communication button to the button of the ten keys, the display control section displays the button indicating "0" of the ten keys in focused state, and

5            wherein when the telephone number is not memorized in the telephone number memory unit and when the button displayed in focused state is changed by the display control section from the communication button to the button of the ten keys, the display control section displays the button memorized in the button memory unit in focused  
10   state.

30.    The display control device as claimed in claim 26,  
         wherein the display control section applies a button indicating "0" of the ten keys to the specific button.

31.    The display control device as claimed in claim 26,  
15       wherein the display control section applies a button of the ten keys indicating the numeral of the telephone number to be normally dialed firstly.

32.    The display control device as claimed in claim 26,  
         wherein the display control section displays the button selected  
20   by the button change section in focused state by displaying highlighted.

33.    The display control device as claimed in claim 26,  
         wherein the display control section displays the button selected by the button change section in focused state by displaying enlarged.

25   34.    The display control device as claimed in claim 26,

wherein the display control section displays the button selected by the button change section in focused state by changing the display color of the focused button.